ABSTRACT

A micro-machined ultrasonic transducer (MUT) substrate that reduces or eliminates the lateral propagation of acoustic energy includes holes, commonly referred to as vias, formed in the substrate and proximate to a MUT element. The vias in the MUT substrate reduce or eliminate the propagation of acoustic energy traveling laterally in the MUT substrate. The vias can be doped to provide an electrical connection between the MUT element and circuitry present on the surface of an integrated circuit substrate over which the MUT substrate is attached.